

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-9, 11-15, 17-20 and 22-25 are pending in the present application. Claims 1, 6, 11-13, 17, 18 and 22-25 are amended, and Claims 26-29 are canceled without prejudice or disclaimer by the present amendment.

Amendments find support in the claims and specification as originally filed, and in particular, in the specification at page 29, lines 6-7. Thus, no new matter is added.

In the outstanding Office Action, the specification was objected to; Claims 17 and 29 were objected to; Claims 1-9, 11-15, 17-20, 23, 24, 27 and 28 were rejected under 35 U.S.C. § 112, second paragraph; Claims 6-9, 11, 23 and 27 were rejected under 35 U.S.C. § 112, second paragraph; Claims 11, 13, 18 and 22-29 were rejected under 35 U.S.C. § 112, first paragraph; Claims 26, 27 and 29 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No 5,827,632 to Inaba; Claim 28 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Publication No. 2003/0118366 to Nukada combined with Inaba; Claims 1, 2, 5-7, 11, 17, 18, 22, 23 and 25 were rejected under 35 U.S.C. § 102(b) as anticipated by Inaba, or alternatively under 35 U.S.C. § 103(a) as unpatentable over Inaba; Claims 12, 13 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nukada in view of Inaba; Claims 1, 4-6, 9, 11, 17, 20, 22, 23 and 25 were rejected under 35 U.S.C. § 102(b) as anticipated by Inaba, or alternatively under 35 U.S.C. § 103(a) as unpatentable over Inaba; Claims 12, 15 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nukada in view of Inaba; Claims 1-9, 17-20, 22, 23 and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,177,223 to Hashimoto in view of U.S. Patent No. 6,403,271 to Suzuki; and Claims 12-15 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nukada in view of Hashimoto and Suzuki.

Initially, Applicants and Applicants' representative gratefully acknowledge the courtesy of a telephone interview with Applicants' representative on October 13, 2005. During the interview, the Examiner provided additional explanation regarding the rejections in the outstanding Office Action and the Advisory Action mailed September 29, 2005. Comments discussed during the interview are reiterated below.

Regarding the objection to the specification, the specification is amended to incorporate suggestions in the outstanding Office Action. Accordingly, Applicants respectfully request that objection be withdrawn.

Further, Claims 17 and 29 are amended to correct a minor informality. Accordingly, it is respectfully requested the objection to Claims 17 and 29 be withdrawn.

Regarding the rejection of Claims 6-9, 11, 23 and 27 under 35 U.S.C. § 112, second paragraph, Claim 6 is amended as suggested in the outstanding Office Action. Accordingly, it is respectfully requested that rejection be withdrawn.

Regarding the rejection of Claims 13 and 18 under 35 U.S.C. § 112, first paragraph, Claims 13 and 18 are amended as suggested in the Advisory Action mailed September 29, 2005, and in light of comments discussed during the interview. Accordingly, Applicants respectfully request that rejection also be withdrawn.

Applicants respectfully traverse the rejection of Claims 1-9, 11-15, 17-20, 23, 24, 27 and 28 under 35 U.S.C. § 112, second paragraph, and in particular Applicants traverse the assertion that the claimed term "average degree of roundness," is indefinite because the specification merely recites an example of how the average degree of roundness may be determined.¹ As noted in the Office Action, the specification indicates that the degree of

¹ Office Action at page 8, lines 1-2.

roundness may be obtained by using image processing software for statistically analyzing photographs and obtaining an arithmetic using the recited formula.²

Applicants respectfully point out that “breadth of a claim is not to be equated with indefiniteness.” *In re Miller*, 441 F2d 689, 169 USPQ 597 (CCPA 1971). Further, as indicated in MPEP § 2173.04, “if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph.” Accordingly, Applicants respectfully submit that the claimed term “average degree of roundness” is definite, and that the meaning of the term is apparent from the specification, at page 36, line 11, to page 37, line 11. Thus, according to MPEP § 2173.05(a), “the pending claims must be given the broadest reasonable interpretation consistent with the specification.”

In addition, as suggested in the Advisory Action dated September 29, 2005, and as discussed during the interview, Applicants enclose objective evidence in the form of a quote from a patent showing that the term “average degree of roundness” has a well-known definition in the toner art. As one example of showing that the term “average degree of roundness” has a well-know definition in the toner art, U.S. Patent No. 6, 100,000 to Anno et al. (herein “Anno”) is cited, and attached herein

According to this document, toner roundness is measured by an FPIA (flow-type particle image analyzer), while an SEM photograph image is applied according to the present invention. Although an actually applied measuring method is thus different, the meaning of the term “average degree of roundness” is common, and a definition thereof is common.³ Accordingly, we believe that this document can be applied as an evidence showing that the term “average degree of roundness” has a well-known definition in the toner art. Therefore, for that reason, Applicants respectfully request that rejection also be withdrawn.

² Office Action at page 8, lines 3-12.

³ Anno at column 11, line 11-24

Further, regarding the rejection of Claims 11, 13, 18 and 22-25 under 35 U.S.C. § 112, first paragraph, the claims are amended in light of suggestions in the outstanding Office Action, the Advisory Action mailed September 29, 2005 and comments during the interview. First, regarding Claim 11, Applicants' specification indicates that a "colorant" is a "coloring agent" that may include conventional dyes and pigments having different colors such as "Carbon black, . . . Cadmium yellow, . . . Cadmium red, . . . Lithol fast scarlet G, . . . Thioindigo maroon, . . . Perinone orange, . . . Prussian blue, . . . Dioxazine violet, . . . Phthalocyanine green, . . . and mixtures thereof."⁴ Accordingly, Claim 11 is amended to more clearly recite that the coloring agent includes colorants having different colors. Next, Claims 13 and 18 are amended to more clearly recite that the inorganic fine particles are hydrophobic silica particles, as suggested in the Advisory Action. Finally, Claims 22-25 are amended to more clearly recite that degree of roundness is calculated based on a binarized image of an inorganic fine particle. Further, Applicants respectfully submit that "degree of roundness" finds support in the specification at least at page 36, lines 16-17, and page 37, lines 1-11.

Accordingly, Applicants respectfully request the rejection of Claims 11, 13, 18 and 22-25 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Further, Applicants respectfully traverse the rejection of Claims 1, 6, 12 and 17 under 35 U.S.C. § 112, first paragraph. Applicants respectfully point out that the claimed relation "SF-1 < SF-2" is satisfied by each of the disclosed embodiments, and that advantages of the claimed invention are obtained by this relationship. The Advisory Action mailed September 29, 2005 asserts that the specification does not "provide an adequate written description for the toner broadly recited in instant claims 26-29," (and Claims 1, 6, 12, and 17), regardless of the indication in the specification that SF-1 has a value that is less than a value of SF-2 for

⁴ Specification at page 51, line 9, to page 52, line 22.

the disclosed toner examples. Accordingly, the specification is amended to provide written description for the relation $SF-1 < SF-2$, and Applicants respectfully submit the specification amendments find support in the specification as originally filed at least at page 107, lines 9-20, page 108, lines 1-6, and the tables at page 111 and 112. Accordingly, Applicants respectfully request the rejection of Claims 1, 6, 12 and 17 under 35 U.S.C. § 112, first paragraph, also be withdrawn.

Applicants respectfully traverse the rejections of Claims 1, 2, 4-7, 9, 11, 17, 18, 20, 22, 23, 25, 26, 27 and 29 under 35 U.S.C. § 102(b) as anticipated by Inaba, with respect to amended Claims 1, 6, 12 and 17.

Amended Claim 1 is directed to a developer that includes, *inter alia*, a base toner having a particle diameter less than or equal to $7\ \mu\text{m}$, and inorganic fine particles. The base toner satisfies $105 \leq SF-1 \leq 130$, $120 \leq SF-2 \leq 180$, and $SF-1 < SF-2$. Further, the inorganic fine particles have an average particle diameter that ranges between 30 nm to 160 nm and an average degree of roundness greater than or equal to 0.98 and less than or equal to 0.996. Amended independent Claims 6, 12 and 17 include similar features.

A developer according to the claimed invention advantageously exhibits better characteristics, because, as discovered by the Applicants, when the particle diameter of the toner is no more than $7\ \mu\text{m}$, additives may be prevented from being buried in the toner when the toner is preserved at high temperature. Further, if the average degree of roundness of the inorganic fine particles is below 0.98, fluidity of toner, supply property of toner, and preservation properties of the toner are reduced. In addition, when the average degree of roundness of the inorganic fine particles is above 0.996, retaining the inorganic fine particles on the toner surface is more difficult, an affinity between the inorganic particles and the toner disadvantageously decreases, the inorganic fine particles are unable to function as external

additives, and a storing property and a chargeability with respect to the environment deteriorates.⁵

Applicants respectfully submit that Inaba does not teach or suggest each of the features of the claimed invention. In particular, Inaba does not teach or suggest a base toner having a particle diameter less than or equal to $7\text{ }\mu\text{m}$, and satisfying $105 \leq \text{SF-1} \leq 130$, and $120 \leq \text{SF-2} \leq 180$. For example, the toner described by Inaba in Example 7 has a particle diameter of $7.7\text{ }\mu\text{m}$, and Inaba also does not describe any other toner including the features of the claimed invention. Thus, Applicants respectfully submit that Inaba does not teach or suggest “a base toner . . . having a particle diameter less than or equal to $7\text{ }\mu\text{m}$ [and satisfying] $105 \leq \text{SF-1} \leq 130$, and $120 \leq \text{SF-2} \leq 180$,” as recited in amended independent Claims 1, 6, 12 and 17.

Accordingly, Applicants respectfully submit that independent Claims 1, 6, 12 and 17, and claims depending therefrom, patentably define over Inaba.

Thus, it is respectfully requested those rejections be withdrawn.

In addition, Applicants respectfully traverse the rejections of Claims 12, 13, 15, 24 and 28 under 35 U.S.C. § 103(a) as unpatentable over Inaba in view of Nukada, with respect to amended independent Claims 1, 6, 12 and 17.

Claims 13, 15 and 24 depend from Claim 12, which as discussed above is believed to patentably define over Inaba, and Claim 28 is canceled. Further, Nukada is silent regarding the claimed toner features that are also lacking in the disclosure of Inaba. Accordingly, Applicants respectfully submit that Claims 13, 15, 24 and 28 also patentably define over any combination of Inaba and Nukada. Accordingly, it is respectfully requested those rejections be withdrawn.

⁵ Specification at page 37, lines 11-22.

In addition, Applicants respectfully traverse the rejections of Claims 1-9, 17-20, 22, 23 and 25 under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Suzuki, with respect to amended independent Claims 1, 6, 12 and 17.

Applicants respectfully submit that Hashimoto and Suzuki do not teach or suggest each feature of the independent claims. In particular, Hashimoto and Suzuki do not teach or suggest a base toner satisfying $SF-1 < SF-2$. Hashimoto only describes toner particles having $SF-1 > SF-2$,⁶ and Suzuki is silent regarding $SF-1$ and $SF-2$ for toner particles. Accordingly, Applicants respectfully submit that Hashimoto and Suzuki, either individually or in combination, do not teach or suggest a base toner that “satisfies $105 \leq SF-1 \leq 130$, $120 \leq SF-2 \leq 180$, and $SF-1 < SF-2$,” as recited in amended independent Claims 1, 6, 12 and 17.

Accordingly, Applicants respectfully submit that independent Claims 1, 6, 12 and 17, and the claims depending therefrom, patentably define over Hashimoto and Suzuki. Thus, Applicants respectfully request that rejection also be withdrawn.

Applicants also respectfully traverse the rejection of Claims 12-15 and 24 under 35 U.S.C. § 103(a) as unpatentable over Nukada in view of Hashimoto and Suzuki.

Claims 13-15 and 24 depend from Claim 12, which as discussed above is believed to patentably define over each of Nukada, Hashimoto and Suzuki. Accordingly, Applicants respectfully request that rejection also be withdrawn.

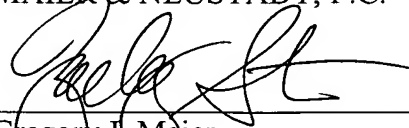
Accordingly, as discussed above, independent Claims 1, 6, 12 and 17 are believed to patentably define over each of the references cited in the outstanding Office Action, either individually or in combination. Thus, Applicants respectfully submit that Claims 1, 6, 12 and 17, and claims depending therefrom, are allowable.

⁶ Hashimoto at column 34, Table 1.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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Attachment: U.S. Patent No. 6,100,000